

REMARKS

Claims 1-4, 7-22, 25-33 and 48-63 are pending in this application. Of these claims, claims 1-4, 7-13, 16-22, 25-29, 32 and 33 stand rejected under 35 USC §102(b) as being anticipated by Canadian Patent CA 02391894 issued to Tashiro et al.; claims 14, 15, 30 and 31 stand rejected under 35 USC §103(a) as being unpatentable over Tashiro et al. in view of either JP05-182679 or JP62-272465; and claims 48 and 49 stand rejected under 35 USC §103(a) as being unpatentable over Tashiro et al. Also, claims 1-4, 7-22, 25-33, 48 and 49 stand rejected under 35 USC §112, second paragraph, as being indefinite for the reasons set forth on pages 2 and 3 of the Office Action.

In view of the preceding amendments and the following remarks, these rejections are traversed, and reconsideration of this application is respectfully requested.

Applicant has argued throughout the prosecution of this application that most of the graphite or conductive particles dispersed in the polymeric material that makes up the composite plate are ground up to have a particle size or diameter or cross-wise dimension that is greater than the final thickness of the plate, as discussed at least in paragraph [0042] of the specification. The ground up particles of graphite or conductive particles are mixed with the polymeric material and then molded into the separator plates. The molded separator plates are then reduced in thickness by a shaving or sanding process to their final plate thickness. What this provides is at least a significant or substantial portion, but not all, of separate graphite or conductive particles extending completely across the plate thickness. Why this is desirable is that these particles reduce the electrical

resistance of the plate and better allow the plate to conduct electricity through the fuel cell stack.

Applicant has again amended independent claims 1 and 18 in an attempt to provide acceptable language to define the size of the particles in the plate. Applicant is open to discuss other claim language suggested by the Examiner.

Applicant has elected to use the term "substantial portion" to define the number or percentage of the graphite or conductive particles in the dispersion that have a size that allows them to extend completely across the plate. Some of the particles will extend across the thickness, and some won't.

MPEP 2173.01 states that an Applicant can define the claims for what they regard as their invention essentially in whatever terms they choose as long as special meaning assigned to a term is clearly set forth in the specification. MPEP 2173.02 states that, "[s]ome latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the Examiner might desire. Examiners are encouraged to suggest claim language to applicants to improve the clarity of precision of the language used, but should not reject claims or insist on their own preferences if other modes of expressions selected by applicants satisfy the statutory requirement." That section of the MPEP goes on to state that definiteness of a claim language is not analyzed in a vacuum, but is considered in light of the content of the particular application disclosure, the teachings of the prior art and the claim interpretation that will be given to one possessing the ordinary level of skill in the pertinent art. MPEP 2173.05(b)D specifically allows the use of the term "substantially".

Those persons skilled in the art in making separator plates for fuel cell stacks from a composite material would understand that graphite or other

conductive material is ground into particles, dispersed into polymeric material and then molded into the shape of the separator plate. Those skilled persons would also readily understand that the grinding process dictates the size of the particles in the dispersion. Those skilled persons would also understand that all of the particles will not have the same size, and that some of the particles will be larger than other particles.

What Applicant is claiming as novel is that the skilled persons have not heretofore know to grind the particles to a size so that a significant or substantial portion or number of the particles will have a cross-wise size greater than the final thickness of the plate. Therefore, Applicant respectfully submits that independent claims 1 and 18 are definite because one of ordinary skill in the art would readily understand what is meant by a substantial portion of the graphite or conductive particles having the particle size as claimed.

In response to the Examiner's assertion that it is not known in the claims directed to defining the graphite or conductive material whether the claim is for the substantial portion or the insubstantial portion, Applicant submits that one of ordinary skill in the art would readily understand that these claims refer to all of the graphite or compressible material generally. It is therefore respectfully requested that the §112, second paragraph, rejection be withdrawn.

Applicant respectfully submits that Tashiro et al. does not teach or suggest providing graphite or other conductive particles in a polymeric material for a composite separator plate where a substantial portion of the particles have a size greater than the plate thickness. Those skilled in the art know how thick the composite plates need to be and generally are. The particle sizes disclosed by

Tashiro et al. on pages 15 and 16 are all significantly less than normal separator plate thicknesses.

The Examiner has directed Applicant's attention to page 19, lines 3-15 of Tashiro et al. as teaching Applicant's claimed particle size. However, Applicant respectfully submits that this discussion in Tashiro et al. teaches away from Applicant's claimed particle size. Particularly, the discussion about the flakey branched-needle-like shape or dendritic shape particles having many contact points to provide good electrical contact clearly means that many particles make contact with each other across the entire thickness of the plate to provide the electrical conductivity. In other words, in Applicant's claimed invention, single graphite particles extend and provide conduction across the thickness of the separator plate. In Tashiro et al., the many contact points on the particles are necessary for the particles to make contact with each other to provide the electrical conductivity across the plate. Therefore, Applicant respectfully submits that Tashiro et al. does not anticipate independent claims 1 and 18.

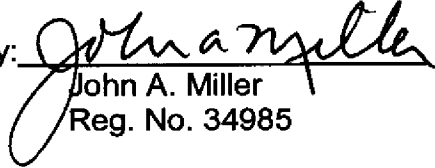
Applicant has reviewed JP05-182679 and JP62-272465, and can find no teaching therein of the claimed particle size of graphite or a conductive material in a composite separator plate. Therefore, Applicant submits that these documents fail to provide the teaching missing from Tashiro et al. to make Applicant's independent claims 1 and 18 obvious.

It is now believed that this application is in condition for allowance. If the Examiner believes that personal contact with Applicant's representative would

expedite prosecution of this application, he is invited to call the undersigned at his convenience.

Respectfully submitted,

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Dated: 7/19/07

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